Re-writing Jon's results

Define $R_1 = P(e \mid c \wedge B)$

$R_2 = P(e \mid \neg c) = R_3 y + P(e \mid \neg c \wedge \neg B)(1-y)$

$R_3 = P(e \mid \neg c \wedge B) \Big| = R_3 y + R_4 (1-y)$

where $R_4 = P(e \mid \neg c \wedge \neg B)$

then for Conformation

$$\left.\begin{aligned} \Lambda e &= \frac{y + R_1(1-y)}{x\left(y + R_1(1-y)\right) + R_2(1-x)} \\ \Lambda B &= \frac{x + R_3(1-x)}{x\left(y + R_1(1-y)\right) + R_2(1-x)} \end{aligned}\right\} \begin{aligned} &(1) \\ &(11) \end{aligned}$$

and for Refutation

$$\left.\begin{aligned} \Lambda e &= \frac{R_1(1-y)}{x R_1(1-y) + R_2(1-x)} \\ \Lambda B &= \frac{R_3(1-x)}{x R_1(1-y) + R_2(1-x)} \end{aligned}\right\} \begin{aligned} &(3) \\ &(4) \end{aligned}$$

Denom on (3) $= x R_1(1-y) + \left(R_3 y + R_4(1-y)\right)(1-x)$

$= R_1 x(1-y) + R_3 y(1-x) + R_4(1-x)(1-y)$

Consider Λ = Asymmetry ratio =

$$\therefore \Lambda = \frac{\Lambda_C}{\Lambda_B} = \frac{y + R_1(1-y)}{x + R_3(1-x)}$$

Refer to

$$\frac{\Lambda_e}{\Lambda_B} = \frac{R_1}{R_3} \quad \frac{(1-y)}{(1-x)}$$

R_1 large.
R_2 small.

$$\text{Denom. } \omega(1) = xy + (R_1 - R_2)x - R_1 xy + R_2$$
$$= xy + R_1 x(1-y) + (R_3 y + R_4(1-y))(1-x)$$
$$= xy + R_1 x(1-y) + R_3 y(1-x) + R_4(1-x)(1-y)$$

Put $R_1 = R_3 = R_4 = R$

$$\text{Denom} = xy + R y(1-x) + R(1-y)$$
$$= \phi\, xy(1-R) + R.$$

Where $R_1 = P(e \mid e \text{ and } B)$ $\quad x = P(T)$
$R_2 = P(e \mid B \text{ and } C)$ $\quad y = P(H)$
$R_3 = P(e \mid B, C)$

$\Lambda_T = \frac{P(T/e)}{P(T)}$

$\Lambda_H = \frac{P(H/e)}{P(H)}$

Then for Conjunction

$$\Lambda_C = \frac{y + R_1(1-y)}{xy + R_1 x(1-y) + R_2 y(1-x) + R_3(1-x)(1-y)}$$

$$\Lambda_B = \frac{x + R_2(1-x)}{xy + R_1 x(1-y) + R_2 y(1-x) + R_3(1-x)(1-y)}$$

ned fel <u>collector</u>

$$Ae = \frac{R_1(1-y)}{xy + R_1 x(1-y) + R_2}$$

$$\Lambda_e = \frac{R_1(1-y)}{R_1 x(1-y) + R_2 y(1-x) + R_3(1-x)(1-y)}$$

$$\Lambda_B = \frac{R_2(1-x)}{R_1 x(1-y) + R_2 y(1-x) + R_3(1-x)(1-y)}$$

Se fel <u>emitter</u>

$$A = \frac{y + R_1(1-y)}{x + R_2(1-x)}$$

D. tabel $R_1 = R_3$ large
ned R_2 small.
1e. $R_1 = R_3 \ll 1$
$R_2 \ll R_1, R_3$

ned fel <u>collector</u>

$$A = \frac{R_3}{R_2} \cdot \frac{1-y}{1-x}$$

We tabe symfort model ve3. $R_1 = R_2 = R_3 = R_1$ ov